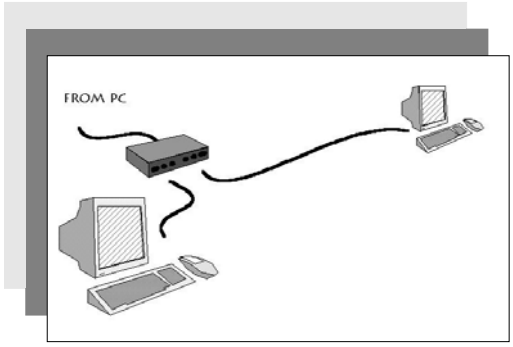
Hall Research Technologies, Inc.

Model 97-P
and
Model 97-S
Dual Station Interface
User's Manual

Connect 2 KVM (Keyboard, Monitor, and Mouse) stations to 1 PC



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S. **800-959-6439**
FREE technical support, Call **714-641-6607** or fax **714-641-6698**
Mail order: **Hall Research Technologies**, 3613 W.MacArthur Blvd. #612, Santa Ana, CA 92704
Web site: **www.hallresearch.com** • E-mail: **info@ hallresearch.com**

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This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been designed and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are intended to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to take whatever measures may be necessary to correct the interference at his/her own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

Table of Contents

Introduction 4
General 4
Supported Systems 4
Features 4

Package Contents 5

Model 97-P Part Description 6

Model 97-S Part Description 7

Installation and Setup 8

Remote Station Setup 10

Accessories 11

Operation 12
Active Delay 12
Blanking Inactive Station Monitor 12
Extending Station B 12
Manual Switching 13
Using Power-Consuming Peripherals 13
Using Long Cables 13

Troubleshooting 14

Technical Support 15

Specifications 16

Introduction

General

Model 97 allows two keyboard-mouse-monitor stations to control one PC. There is no need to manually switch between the stations.

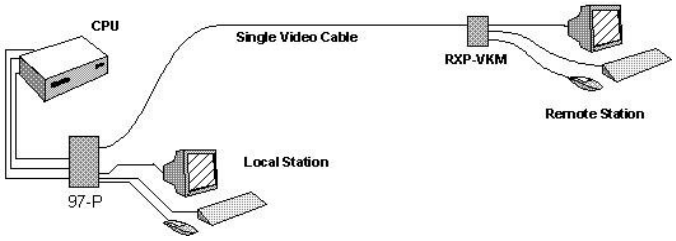
Model 97 has a high-resolution video splitter that displays your PC's screen simultaneously on both monitors and "senses" which station is active (keyboard activity or mouse movement) and switches your PC to it automatically on a "*first come first serve"* basis.

While one station is in use, the other station's mouse and keyboard are locked out. After activity ceases at the selected station, the Model 97 starts scanning both stations for any activity either immediately or after a 5 second delay. The delay is set via a switch on the unit. The purpose for the delay is to prevent accidental or unintentional interruption by the unselected station. A connector is provided for disabling the keyboard and mouse of either station permanently by means of an external switch.

This unit does not require software and since it draws its power from the PC, it doesn't require any additional power supplies.

Model 97 comes in two different flavors: 97-P which supports PS2 mice and 97-S which supports serial mice. Both models support PS2 keyboards and VGA monitors at any resolution and refresh rate.

Model 97-P can work in tandem with the optional Model RXP-VKM receiver to extend one station as far as 300 feet. This is done using only one special cable to extend the keyboard, mouse, and the monitor. Model 97-S can also be used with Model RXP-VKM; however, a serial cable is needed to extend the mouse.



Supported Systems and Peripherals

- All IBM PC compatible systems and notebooks
- Standard PS/2 and AT Keyboards (Legacy AT keyboards may require connector adapters)
- Standard and wheel (e.g. Microsoft Intellimouse) mice
- All RS-232 serial pointing devices including touch-screens
- All VGA compatible display devices.

Features

- Auto sensing, *first come first serve* switching between stations
- Station LED indicates activity sensed at either station
- Works with optional Model RXP-VKM receiver to extend one station as far as 300 feet using only one VGA cable
- 5 second activity delay to extend selection time of last active station. This is used to keep a station's connection to the CPU after activity ceases and not relinquish control of CPU for 5 seconds after last activity (keystroke or mouse movement)
- Monitor blank out Option DIP-switch of non-active station
- Long cable video compensation DIP switch
- Control Connector for optional external switch to manually select between stations
- Can be used to connect two Touch-Screen stations to 1 PC
- No software or power required

Package Contents

Model 97-P

- ❑ User's Manual
- ❑ Model 97-P
- ❑ 6 ft. Male-to-Male VGA (multicoaxial) Cable
- ❑ Two 6 ft. Male-to-Male PS2 (Mini DIN 6) cable

Some Model 97-P units are shipped with zipped cables (the video and PS2 cables are molded together to form one piece with two PS2 and one VGA connectors on each end.

Model 97-S

- ❑ User's Manual
- ❑ Model 97-S
- ❑ 6 ft. Male-to-Male VGA (multicoaxial) Cable
- ❑ 6 ft. Male-to-Male PS2 (Mini DIN 6) cable (keyboard)
- ❑ 6ft. Male-to-Female DB-9 serial cable (mouse)

97-P Part Description

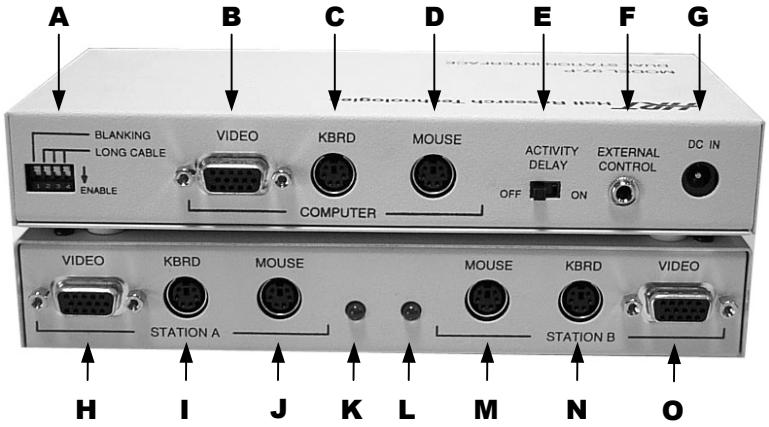


FIGURE 1 Model 97-P part Description

A DIP Switches

B PC Video

A PC Keyboard

D PC Mouse

E Activity Delay Switch

F External Control Switch In

G DC In (Not Used)

H Station A VGA output

I Station A Keyboard In

J Station A Mouse In

K Station A Activity LED

L Station B Activity LED

M Station B Mouse In

N Station B Keyboard In

O Station B VGA output

97-S Part Description

Model 97-S has almost the same parts as Model 97-P, with one exception that applies to the computer and the two stations: the mouse connectors are DB-9 serial. The mouse connector on the COMPUTER side is female, while those on the STATION side of the unit are male.

FIGURE 2 Model 97-S part Description

	Do not usePS2 to Serial adapters for the mouse, as this will cause Model 97-S to malfunction.
	The model 97-S can be used to connect two Touch-Screen stations to 1 PC

Installation and Setup

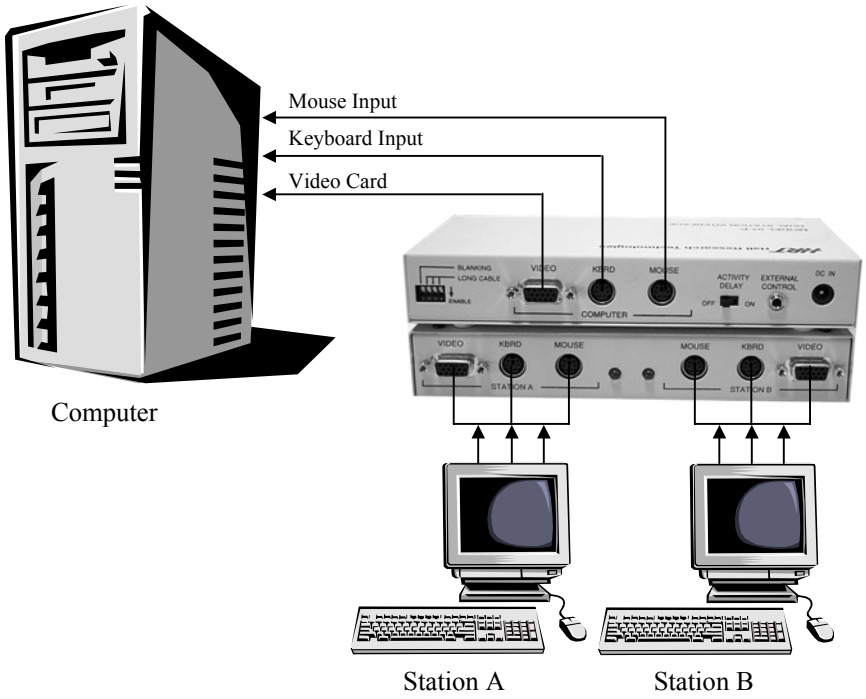


FIGURE 3 Normal Installation

1. Use the provided VGA cable to connect the VIDEO connector on the "computer" side of Model 97 to the video card on the PC.
2. Use the provided PS2 cable to connect the KBRD connector on "computer" side of Model 97 to the keyboard connector on the PC.
3. If you have Model 97-P, use the other provided PS2 cable to connect the MOUSE connector on the "computer" side of Model 97-P to the mouse connector on the PC.
4. If you have Model 97-S, use the provided serial cable to connect the MOUSE connector on the "computer" side of Model 97-S to the serial port connector on the PC.

5. Connect the Station A VIDEO connector on Mode 97 to station A's monitor (you can use an extension cable here if you wish).
6. Connect the Station A KBRD connector on Model 97, to station A's keyboard (you can use an extension cable here if you wish, but keep in mind that if the extension is longer than 50 feet you may need additional equipment).
7. Connect the Station A MOUSE connector on Model 97-P or -S to station A's mouse (or touch screen device).

Do not usePS2 to Serial adapters for the mouse, as this will cause Model 97-Sor -P to malfunction.

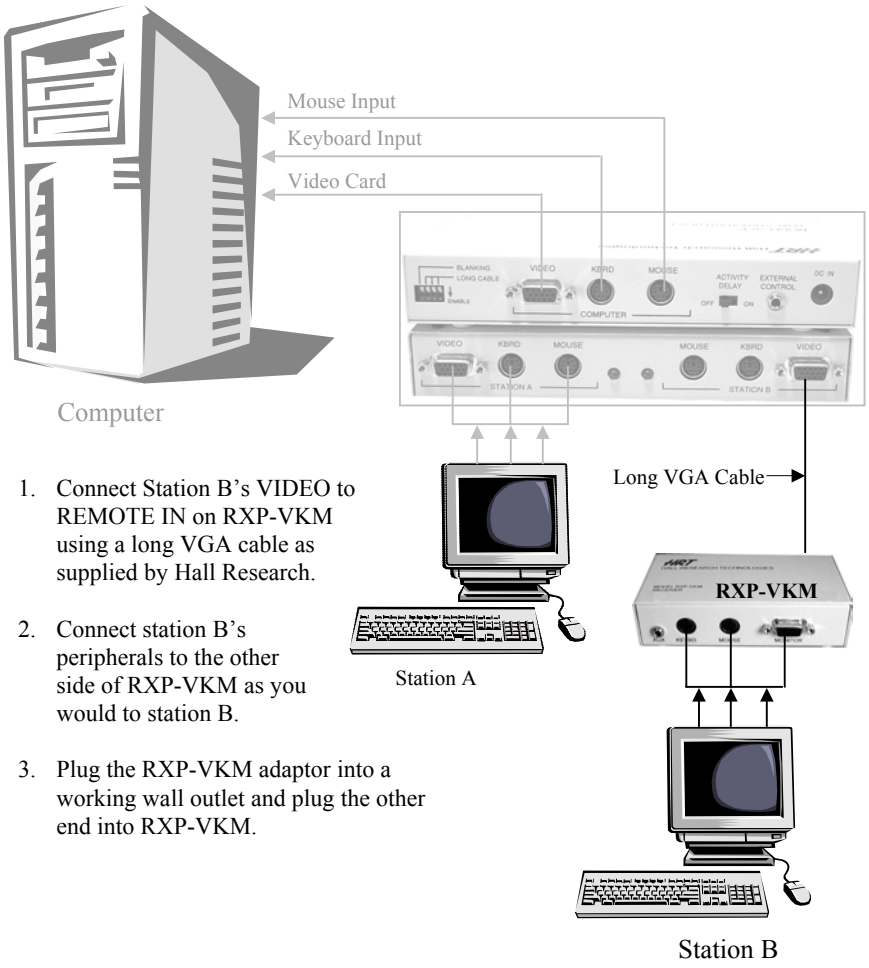
8. Repeat steps 5-8 for station B.
9. If you have an external control switch (see section on External Switching below), connect it to the EXTERNAL CONTROL connector.
10. Put the Activity Delay switch in the ON position to cause a 5 second delay between switching from one station to the next. Or leave it in OFF position to have instantaneous switching between stations.
11. If you want the monitor on the "inactive" station to go blank while the other station is active, slide DIP switch #1 (see figure 1 item A) to the ENABLE position (down). Only one monitor will be on at any given time with Blanking enabled.
12. If Station B is farther than 50 feet, slide DIP switches #2-4 to the ENABLE position (down) to compensate for the video signal.
13. Turn the PC and station monitors on.

Connecting special peripherals that draw a lot of power (e.g. a keyboard with a wand, etc.) may cause Model 97 to lock up. See the section called Using Power-Consuming Peripherals below for more information.

Hall Research Technologies offers all of the above cables in a variety of lengths. See the Accessories below.

Remote Station Setup

Model 97 works properly with stations up to 50 feet away from the PC. You can extend station B up to 300 feet by adding Model RXP-VKM:



1. Connect Station B's VIDEO to REMOTE IN on RXP-VKM using a long VGA cable as supplied by Hall Research.
2. Connect station B's peripherals to the other side of RXP-VKM as you would to station B.
3. Plug the RXP-VKM adaptor into a working wall outlet and plug the other end into RXP-VKM.

FIGURE 4 Remote Station Setup

To extend station B on Model 97-S, follow above steps to extend the monitor and keyboard, then extend the mouse using a male-to-female serial cable.

Accessories

The following are available from Hall Research Technologies for this product. Please call 800-959-6439 or 714-641-6607 to order.

RXP-VKM Receiver & Cable
Use this to extend Station B beyond 50 feet
Use of this device also requires a long VGA cable
Use with Model 97-S also requires a serial cable

VGA (Multicoaxial) Cable
Available in the following standard sizes:
6, 10, 15, 25, 50, 75, and 100 feet

PS2 (Mini DIN 6) Cable
Available in the following standard sizes:
6, 10, 15, 25, 50, 75, and 100 feet

DB-9 Serial Cable
Available in the following standard sizes:
6, 10, 15, 25, 50, 75, and 100 feet

External Control Switch Assembly
This item can be special-ordered from Hall Research Technologies (see section on External Control)

Cables other than the standard length can be special-ordered from Hall Research Technologies.

Operation

After installation and setup is complete, both LEDs on Model 97 are off. Model 97 automatically detects activity on a station, switches to it, and turns on that station's LED. The LED goes on only when a key is pressed or a mouse is clicked or moved.

Active Delay

This first-come-first-serve automatic switching between stations may become a nuisance if one station starts typing or moving their mouse while the other is already typing. This may cause the Model 97 to switch from one station to the other and characters from both stations to be mixed. To prevent this from happening, *Active Delay* is enabled which makes Model 97 wait 5 seconds before switching between stations. Alternatively if you are collaborating with the person at the other station it is a good idea to leave the delay off so that at any time either person can move the mouse, or type.

Blanking Inactive Station Monitor

Model 97 normally sends the PC's video output to both stations simultaneously. To blank the screen on the inactive station's monitor, put BLANKING DIP switch (#1) in the ENABLE position (See figure 1, item A). If blanking is enabled, only the currently active (or last selected) station has video and other monitor is off.

Extending Station B

Model 97 allows Station B to extend beyond 50 feet and up to 300 feet. Hall Research Technologies' optional RXP-VKM receiver is placed between Model 97 and Station B (see Remote Station Setup above).

To extend Station B on Model 97-P, only a VGA cable is used to connect it to the RXP-VKM unit. This cable will carry the signal for the monitor, as well as the keyboard and mouse (this cable need to be purchased from HRT). If Station B is being set up remotely on Model 97-S, the VGA cable above carries the signal for the monitor and the keyboard, but the mouse has to be extended using an additional male-to-female DB-9 serial cable which is available from Hall Research Technologies (see Accessories above).

Using Long Cables

If a station is over 50 feet away from the PC, DIP switches #2-4 (See figure 1, item A) should be set to the down position (ENABLE). This will compensate for the loss in the video signal and improve the picture.

The LONG CABLE DIP switches should be enabled even if an RXP-VKM receiver is used to extend Station B.

Manual Switching

Model 97 can be made to activate one station and lock out the other. This requires an optional external control switch assembly which plugs into the EXTERNAL CONTROL jack on Model 97 . This assembly can be special ordered from Hall Research Technologies, or can be made from a 1mini stereo (/8 in, 3.5 mm) plug and a SPDT center off switch as shown below:

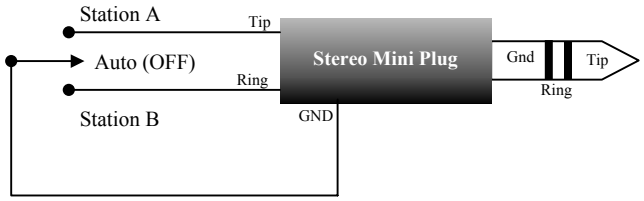


FIGURE 5 External Switch Assembly Schematic

Using Power-Consuming Peripherals

Model 97 draws its power from the PC keyboard/mouse (PS2) connectors. If a station uses power-hungry peripherals such as keyboards with barcode reader wands, the PC may not be able to provide enough current to both the peripheral and Model 97. In this case the keyboard may lock up. This is not an issue on Station B if it is extended using the optional RXP-VKM. The peripherals on this station draw their power from RXP-VKM.

If you must use such peripherals and can't put them on an extended Station B, you can special order the powered version of Model 97 by calling Hall Research Technologies 714-641-6607. Replace Model 97-P with 97-P-PS and Model 97-S with 97-S-PS.

Troubleshooting

Symptom	Possible Cause(s)
Keyboard locks up	1. Check PS2 cable and connection 2. You are using a power consuming peripheral with a standard Model 97 (see Using Power-Consuming Peripherals above) 3. You are using long cables (see Extending Station B above) 4. You are using RXP-VKM but forgot to plug in its adapter.
No picture or poor picture quality	1. Check VGA cable and connection 2. You have enabled monitor blanking and the other station is in use. Set DIP switch #1 to the up position (see figure 1, item A) 3. You are using long cables (see Extending Station B above)
Only one station can be used	You are manually selecting one station using an external control switch assembly that is either plugged into Model 97 or the options RXP-VKM.
Garbage is typed on the screen	Two people on two stations are typing simultaneously. Put the Active Delay switch to the ON position to allow a 5 second delay between automatic switching between stations.
Mouse not working	1. Check PS2 cable and connection 2. RXP-KVM is used with Model 97-P but it is not powered up 3. Mouse driver on PC does not support the mouse used 4. Check DB-9 serial cable and connection for Model 97-S 5. Make sure both mice are of the same type. For example you cannot use a wheel mouse on one station and a standard PS/2 mouse (with no wheel) on the other.

Technical Support

If you believe that the Model 97 is malfunctioning, do not attempt to repair the unit. Contact Technical Support at 714-641-6607.

Before you call us, please make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- Nature and duration of the problem;
- Components involved in the problem—that is, what type of cable, makes and models of computers and monitors, etc.
- Results of any testing you've already done.

Shipping and Packaging

If you need to transport or ship the product:

- Package it carefully. We recommend that you use the original container.
- Before shipping the unit back to Hall Research Technologies for repair or return, contact us to get a Return Authorization (RA) number.

Specifications

Model 97-P and 97-S

Dimensions

L X W X H	6.9 X 3.5 X 13 in

Video

Max Resolution	1600 X 1200
Coupling	DC
Video Level	0.7 V p-p
Video Gain	1; double-terminated
Sync	Separate/Composite; TTL, Sync-on-green: -0.3V
Drive	0 to 50 ft. on Station A
	0 to 300 ft. on Station B (Switch selectable)

Keyboard

Connector:	Mini Din 6-pin Female
Type	All AT and Windows 9x compatible keyboards
Mode	All modes supported by the operating system
Communication	Bi-directional

Mouse (Model 97-P)

Connector	Mini Din 6-pin Female
Mouse Type	Any PS2 mouse or pointing device

Both pointing devices must be of same kind (supported by same driver)
Use of Serial PS2 adapters not supported

Mouse (Model 97-S)

Connector	D-Sub 9-Pin male
Mouse Type	All serial pointing devices such as mice, tablets,
	touch screens, etc.

Both pointing devices must be of same kind (supported by same driver)
Use of Serial PS2 adapters not supported

External Control

Connector	3.5 mm (1/8 in) Stereo Jack
Select “A”	Connect Tip to Ground
Select “B”	Connect Ring to Ground
Auto	Leave Disconnected

Timeout Delay

Switch = OFF	0.3 sec
Switch = ON	5 to 10 sec

Model RXP-VKM

Dimensions

L X W X H	4.8 X 2.7 X 1.3 in

Video

Connector	HDD15 Female
Coupling	DC
Video Level	0.7 V p-p
Video Gain	1

Keyboard

Connector:	Mini Din 6-pin Female
Type	All AT and Windows 9x compatible keyboards
Mode	All modes supported by the operating system

Mouse

Connector	Mini Din 6-pin Female
Type	Any PS2 mouse or pointing device including MS IntelliMouse®

Made in U.S.A

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